Querying Metrics from Prometheus

🕐 2 minute read ✔ page test

This task shows you how to query for Istio Metrics using Prometheus. As part of this task, you will use the web-based interface for querying metric values.

The Bookinfo sample application is used as the example application throughout this task.

Before you begin

- Install Istio in your cluster.
- Install the Prometheus Addon.
- Deploy the Bookinfo application.

Querying Istio metrics

1. Verify that the prometheus service is running in your cluster.

In Kubernetes environments, execute the following command:

```
$ kubectl -n istio-system get svc prometheus
NAME         TYPE         CLUSTER-IP       EXTERNAL-IP   POR
T(S)    AGE
prometheus   ClusterIP    10.109.160.254   <none>        909
0/TCP   4m
```

2. Send traffic to the mesh.

   For the Bookinfo sample, visit
   `http://$GATEWAY_URL/productpage` in your web
   browser or issue the following command:

```
$ curl "http://$GATEWAY_URL/productpage"
```

> ⓘ $GATEWAY_URL is the value set in the
> Bookinfo example.

3. Open the Prometheus UI.

   In Kubernetes environments, execute the
   following command:

   ```
   $ istioctl dashboard prometheus
   ```

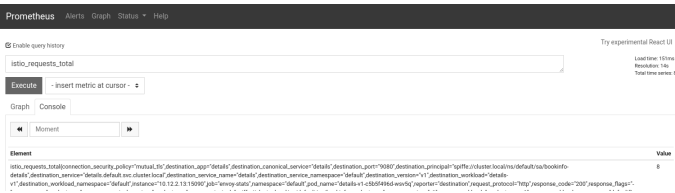   Click **Graph** to the right of Prometheus in the
   header.

4. Execute a Prometheus query.

In the "Expression" input box at the top of the web page, enter the text:

```
istio_requests_total
```

Then, click the **Execute** button.

The results will be similar to:

,source_app=" productpage ,source_canonical_service=" productpage ,source_principal=" spiffe://cluster.local/ns/default/sa/bookinfo-productpage ,source_version=" v1 ,source_workload=" productpage-v1 ,source_workload_namespace=" default }

istio_requests_total{connection_security_policy="mutual_tls",destination_app="productpage",destination_canonical_service="productpage",destination_port="9080",destination_principal="spiffe://cluster.local/ns/default/sa/bookinfo-productpage",destination_service="productpage.default.svc.cluster.local",destination_service_name="productpage",destination_service_namespace="default",destination_version="v1",destination_workload="productpage-v1",destination_workload_namespace="default",pod_name="productpage-v1-7d6cfb7dfd-rhn7f",reporter="destination",request_protocol="http",response_code="0",response_flags="DC",source_app="istio-ingressgateway",source_canonical_service="istio-ingressgateway",source_principal="spiffe://cluster.local/ns/istio-system/sa/istio-ingressgateway-service-account",source_version="unknown",source_workload="istio-ingressgateway",source_workload_namespace="istio-system"}   4

istio_requests_total{connection_security_policy="mutual_tls",destination_app="productpage",destination_canonical_service="productpage",destination_port="9080",destination_principal="spiffe://cluster.local/ns/default/sa/bookinfo-productpage",destination_service="productpage.default.svc.cluster.local",destination_service_name="productpage",destination_service_namespace="default",destination_version="v1",destination_workload="productpage-v1",destination_workload_namespace="default",instance="10.12.1.15:15090",job="envoy-stats",namespace="default",pod_name="productpage-v1-7d6cfb7dfd-rhn7f",reporter="destination",request_protocol="http",response_code="200",response_flags="-",source_app="istio-ingressgateway",source_canonical_service="istio-ingressgateway",source_principal="spiffe://cluster.local/ns/istio-system/sa/istio-ingressgateway-service-account",source_version="unknown",source_workload="istio-ingressgateway",source_workload_namespace="istio-system"}   9

Prometheus Query Result

You can also see the query results graphically by selecting the Graph tab underneath the **Execute** button.
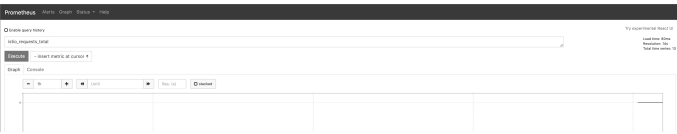
Prometheus Query Result - Graphical

Other queries to try:

- Total count of all requests to the productpage

service:

```
istio_requests_total{destination_service="productpage.defau
lt.svc.cluster.local"}
```

- Total count of all requests to `v3` of the `reviews` service:

```
istio_requests_total{destination_service="reviews.default.s
vc.cluster.local", destination_version="v3"}
```

  This query returns the current total count of all requests to the v3 of the `reviews` service.

- Rate of requests over the past 5 minutes to all instances of the `productpage` service:

```
rate(istio_requests_total{destination_service=~"productpage
.*", response_code="200"}[5m])
```

About the Prometheus addon

The Prometheus addon is a Prometheus server that comes preconfigured to scrape Istio endpoints to collect metrics. It provides a mechanism for persistent storage and querying of Istio metrics.

For more on querying Prometheus, please read their

querying docs.

Cleanup

- Remove any `istioctl` processes that may still be running using control-C or:

```
$ killall istioctl
```

- If you are not planning to explore any follow-on tasks, refer to the `Bookinfo cleanup` instructions to shutdown the application.